To: pfuglevand@dofnw.com[pfuglevand@dofnw.com]
Cc: "Rob Webb" [rwebb@dofnw.com]
Bcc: []
From: CN=Karl Gustavson/OU=DC/O=USEPA/C=US
Sent: Fri 4/20/2012 5:48:29 PM
Subject: RE: FS vol estimates
pfuglevand@dofnw.com

Hi Paul,

Here's the link to the whole thing:

http://lwgportlandharbor.org/feasibility/draft_fs_rpt.htm

The "site specific calculation" really isn't that... it's just an +overdredge, + engineering factor + residual depth. It doesn't take account for site conditions or a specific kind of dredge.

Plus, it creates unreasonable scenarios: e.g., if they have a 6 inch depth of impact (a common DOI at the site), they cost out removing the 6 inches + engineering factor + up to 2 feet overdredge +1 foot residual.

Anyway, there is a bit of advocacy in what is written. My favorite is (p. 10-11):

“Although dredge volumes were estimated for this draft FS using a consistent set of assumptions to support the comparative evaluation, EPA directed use of less conservative volume estimation methods than recommended in the recent literature (e.g., USACE 2008a), which may under-predict remedial design or construction volumes, particularly in areas with relatively shallow sediment deposits (Section 5.11).”
As you know, this is the opposite of what USACE 2008a (USACE Tech Guidelines) says; it actually recommends the "EPA approach", stating: "For FS level considerations, an adjustment factor of 50 percent (i.e., an estimated dredge prism volume equal to 1.5 times the neat line prism volume) is appropriate for typical site conditions. For site conditions dictating very thin cuts over large areas (on the order of 1-ft cuts), a higher adjustment factor would be appropriate, since the allowable overdredge would be 6 in. at a minimum (see Chapter 9). In addition, a higher adjustment factor would be appropriate for sites requiring deep excavations relative to their area, since the layback slopes would require removal of significant additional volumes (see Chapter 9)."
That sounds a lot like scaling 1.5 to 2X.
I tracked it back into Appendix O, where they say that USACE recommends a 2 foot overdredge and they cite our document USACE. ERDC/TN EEDP-04-37, which is specifically for navigation dredging! (see p 94 and 135 of Appendix O if interested).
Anyway, I thought you'd get a kick out of it. I actually just find it kind of disheartening because this isn't what we should be arguing about.... I think the 1.5-2X is appropriate and reasonable if not generous. It's based on simplified assumptions that account for known and unknown issues and are at a level appropriate for an FS.
Cheers,
Karl
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From: "Paul Fuglevand" <pfuglevand@dofnw.com>
To: Karl Gustavson/DC/USEPA/US@EPA
Cc: "Rob Webb" <rwebb@dofnw.com>
Date: 04/20/2012 12:47 PM
Subject: RE: FS vol estimates

Thanks, Karl. I appreciate this. Could you send me the tables and figures as well.

The Volume Sensitivity Analysis at the end of the section said:

"The EPA method tends to underestimate the total dredge volume by on average around 10 percent when compared to the LWG method."

The 1.5 to 2.0 factor times the neat line volume is a Rule of Thumb to use for a ballpark estimate. I was pleasantly surprised to see how close the rule of thumb estimate was to the site specific calculation. Did you read it any differently?

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From: Karl Gustavson [mailto:Gustavson.Karl@epamail.epa.gov]
Sent: Friday, April 20, 2012 7:50 AM
To: Fuglevand, Paul
Subject: FS vol estimates

Paul,

Remember we spoke a bit ago about FS estimates of dredge volume?

I thought you'd find this interesting; from the Portland Harbor Draft FS. In particular 5.11-2, which critiques using a neatline*1.5 to 2 FS volume estimate.

Good times!

Karl

(See attached file: Pages from 2012-03-20_Draft FS_Compiled Main Text.pdf)

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